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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/540,166	03/31/2000	Scott A. Rosenberg	042390.P6729	2691

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Blakely Sokoloff Taylor & Zafman LLP  
12400 Wilshire Boulevard  
Seventh Floor  
Los Angeles, CA 90025

EXAMINER

KOVALICK, VINCENT E

ART UNIT	PAPER NUMBER
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2673

DATE MAILED: 07/29/2004

22

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/540,166

Applicant(s)

ROSENBERG

Examiner

Vincent E Kovalick

Art Unit

2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on March 15, 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 3-7, 10-15 and 18-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3-7, 10-15 and 18-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_. 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Amendment*

1. This Office Action is in response to Applicant's Amendment dated March 15, 2004 in response to USPTO Office Action dated January 13, 2004.

Applicant's remarks/arguments regarding the use of prior art Emerson (USP 6,664,969) and Gupta (USP 5,113,180) as the primary references in the rejection of claims 3, 5, 10, 12, 15 and 21-22 are rendered moot in view of the introduction of new prior art used in the rejection of said claims 3, 5, 10, 12, 15 and 21-22.

### *Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3, 5, 10, 12, 15 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldshlag et al. (USP 5,136,695) taken with Szamrej (USP 5,990,852). Relative to claims 3, 10 and 15, Goldshlag et al. **teaches** apparatus and method for updating a video display from a host computer (col. 2, lines 53-68 and col. 3, lines 1-56): Goldshlag et al. further **teaches** a system to refresh a display the system comprising: a memory to store images of an image frame in a plurality of memory pages; and a display controller in communication with the memory to access the image frame and to send only the marked memory pages of the image frame to the display to refresh the display (col. 2, lines 53-68; col. 3, line 1 and Fig. 1);

Goldshlag et al. **does not teach** a processor to perform drawing operations to generate the image for the image frame, the processor marking memory pages corresponding to regions of the image frame that have been updated while performing the drawing operation.

Goldshlag et al. teaches an apparatus and method for updating a video display from a host computer.

Szamrej **teaches** a display screen duplication system (col. 2, lines 24-67 and col. 3, lines 3-10); Szamrej further **teaches** a processor to perform drawing operations to generate the image for the image frame, the processor marking memory pages corresponding to regions of the image frame that have been updated while performing the drawing operation (col. 2, lines 55-66; col. 4, lines 45-64 and Fig. 2A)

It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide to the device as taught by Goldshlag et al. the feature as taught by Szamrej in order to provide the method steps for efficiently communicating changes to a display screen, realizing the power savings of refreshing said display by only updating that portion of the image that had changed.

Regarding claims 5 and 12, it would have been obvious to a person of ordinary skill in the art at the time of the invention that the capacity of the memory pages would be sufficient to accommodate the system data storage/processing, this would include a memory page size of four kilobytes if that is specified as a system requirement.

Relative to claims 21-22, Goldshlag et al. further **teaches** the system wherein the display controller sends the image frame one memory unit at a time to the display to refresh the display (col. 2, lines 53-59).

6. Claims 4, 11, 18, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldshlag et al. et al. taken with Szamrej as applied to claims 3, 10 and 15 respectively in item 5 hereinabove, and further in view of Broemmelsiek (USP 5,574,836).

Relative to claims 4, 11, 18, 23 and 24, Goldshlag et al. taken with Szamrej **does not teach** said system wherein the image frame is divided into tiles representing two-dimensional regions of the image frame, each of the tiles is stored in one separate memory page.

Goldshlag et al. taken with Szamrej teaches an apparatus and method for updating a video display from a host computer wherein only those portions of an image that change are refreshed.

Broemmelsiek **teaches** an interactive display apparatus (col. 3, lines 60-67 and col. 4, lines 1-49); Broemmelsiek further **teaches** said system wherein the image frame is divided into tiles representing two-dimensional regions of the image frame, each of the tiles is stored in one separate memory page (col. 4, lines 32-47).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide to the device as taught by Goldshlag et al. taken with Szamrej the feature as taught by Broemmelsiek in order to provide the display speed performance necessary for certain display environments (Broemmelsiek, col. 4, lines 28-32).

7. Claims 6, 13 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldshlag et al. taken with Szamrej as applied to claims 3, 10 and 15 respectively in item 5 hereinabove, and further in view of Forkey (USP 5,733,246).

Regarding claims 6, 13 and 19, Goldshlag et al. taken with Szamrej **does not teach** the said system wherein the image frame is represented by a configuration where color components of a pixel are deposited in contiguous memory locations.

Goldshlag et al. taken with Szamrej teaches an apparatus and method for updating a video display from a host computer wherein only those portions of an image that change are refreshed.

Forkey **teaches** a viewing instrument that can obtain color images of dimly illuminated objects

(col. 4, lines 37-67 and col. 5, lines 1-21); Forkey further **teaches** the said system wherein the image frame is represented by a configuration where color components of a pixel are deposited in contiguous memory locations (col. 6, lines 63-67 and col. 7, lines 1-8).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide to the device as taught by Goldshlag et al. taken with Szamrej the features as taught by Forkey in order to provide the means to minimize color image processing time and produce high quality color images.

8. Claims 7, 14 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldshlag et al. taken with Szamrej as applied to claims 3, 10 and 15 respectively in item 5 hereinabove, and further in view of Drewry (USP 5,748,178).

Relative to claims 7, 14 and 20,) Goldshlag et al. taken with Szamrej **does not teach** a system wherein the image frame is represented by a configuration where color components of a pixel are separated and deposited in multiple color planes.

Goldshlag et al. taken with Szamrej teaches an apparatus and method for updating a video display from a host computer wherein only those portions of an image that change are refreshed. Drewry **teaches** a digital video system and methods for efficient rendering of superimposed vector graphics (col. 2, lines 66-67; col. 3, lines 1-67 and col. 4, lines 1-4); Drewry further **teaches** a system wherein the image frame is represented by a configuration where color components of a pixel are separated and deposited in multiple color planes (col. 6, lines 12-22).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide to the device as taught by Goldshlag et al. taken with Szamrej the features as taught by Drewry in order to minimize color image processing time.

***Conclusion***

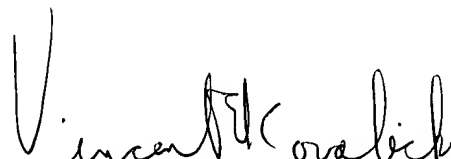
9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


U. S. Patent No.	6,263,426	Abdallah et al.
U. S. Patent No.	6,173,381	Dye
U. S. Patent No.	6,008,823	Rhoden et al.
U. S. Patent No.	6,002,411	Dye
U. S Patent No.	5,831,639	Conticello
U. S. Patent No.	5,596,376	Howe
U. S. Patent No.	5,486,876	Lew et al.

***Responses***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vincent E Kovalick whose telephone number is 703 306-3020. The examiner can normally be reached on Monday-Thursday 7:30- 4:30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 703 305-4938. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Vincent E. Kovalick  
July 19, 2004

  
BIPIN SHALWALA  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600